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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,604	11/21/2001	John T. Brady	57029US002	3886
32692	7590	03/08/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			METZMAIER, DANIEL S	
PO BOX 33427			ART UNIT	PAPER NUMBER
ST. PAUL, MN 55133-3427			1712	

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/990,604	Applicant(s) BRADY ET AL.	
	Examiner Daniel S. Metzmaier	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-61 is/are pending in the application.
- 4a) Of the above claim(s) 25-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-15 and 20-24 is/are rejected.
- 7) ☒ Claim(s) 16-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>122003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-3 and 7-69 are pending.

Election/Restrictions

1. Claims 25-61 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention of Group II, claims 1-3 and 7-24, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. filed December 8, 2003.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3, 7-15 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikon Corp, JP 06-329988, as evidenced by Patent abstracts of

Art Unit: 1712

Japan, JP406329988A, and the corresponding machine translation, Japan Patent Office, in view of Bruno, US 5,776,239.

Nikon Corp ([0025]-[0033] and [0082]-[0083]) discloses composite sols of titanium oxide and antimony pentoxide, wherein ([0025]) the sol may be an aqueous or aqueous/organic solvent sol. Nikon Corp lacks a disclosure of the crystalline form of the commercial sols. The particles sizes are disclosed as 1-200 nm, preferably 5-100 nm. Nikon Corp ([0029]) teaches the incorporation of an organic silicon compound or hydrolyzate as a sol constituent and ([0025]) teaches the addition of an organic amine for stabilization. Nikon Corp (paragraphs [0028] and [0083]) teaches and discloses ratios reading on applicants' claimed range. Nikon Corp (paragraphs [0029] and [0031]) teaches the sols compositions have a high refractive index.

Nikon Corp differs in the explicit disclosure of the crystalline structure claimed as rutile-like.

Bruno (column 2, lines 27-33, and column 4, lines 54 et seq) discloses ultrafine hydrothermally treated powders having an average crystallite size of about 1-100 nm, preferably about 4-60 nm, with agglomerates from their primary crystalline size up to about 300 nm and having 95 to 100% rutile crystals.

These references are combinable because they teach titanium oxide pigments for addition to plastics. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ the hydrothermally treated colloidal particles having rutile structure for the known rutile structure property of high refractive index as desired in the Nikon Corp reference. It is well known in the pigment art that

Art Unit: 1712

the rutile phase of titanium dioxide has a higher refractive index than the anatase crystalline phase.

Allowable Subject Matter

5. Claims 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed December 8, 2003 have been fully considered but they are not persuasive.

7. Applicants (page 13 of the response) assert the rejection of Bruno in view Nikon Corp has been obviated for the reasons asserted to rebut the obviousness rejection over Bruno alone. Said rebuttal sets forth the amendment to the independent claims defines over the Bruno use of the antimony as a dopant at a concentration of greater than 0 to at least 20%. This has not been deemed persuasive since the Nikon Corp reference teaches and discloses ratios reading on applicants' claimed range (paragraphs [0028] and [0083]).

Furthermore, Bruno clearly contemplates the formation of antimony doped titanium particles without a detrimental effect on the crystalline structure of the titanium.

Lastly, Nikon Corp desires a high refractive index and it is well known in the art that rutile has a higher refractive index than anatase. The use of the methods of hydrothermal treatment of Bruno and the resulting rutile-like materials would have been

Art Unit: 1712

expected and obvious at the time of applicants' invention in view of the Nikon Corp and Bruno references.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

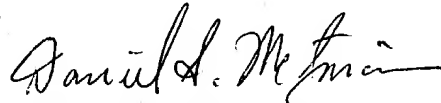
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1712

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM